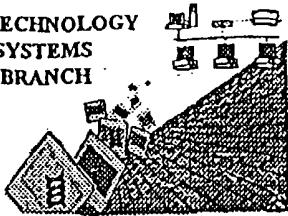


BIOTECHNOLOGY
SYSTEMS
BRANCH



RAW SEQUENCE LISTING
ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/678,023

Source: 1fw16

Date Processed by STIC: 11/24/04

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER

VERSION 4.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 06/05/04): U.S. Patent and Trademark Office, 220 20th Street S., Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04

Raw Sequence Listing Error Summary

<u>ERROR DETECTED</u>	<u>SUGGESTED CORRECTION</u>	<u>SERIAL NUMBER:</u> <u>09/678,023</u>
ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE		
1 <input type="checkbox"/> Wrapped Nucleic Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."	
2 <input type="checkbox"/> Invalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.	
3 <input checked="" type="checkbox"/> Misaligned Amino Numbering	The numbering under each 5 th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.	
4 <input type="checkbox"/> Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.	
5 <input type="checkbox"/> Variable Length	Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.	
6 <input type="checkbox"/> PatentIn 2.0 "bug"	A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.	
7 <input type="checkbox"/> Skipped Sequences (OLD RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence: (2) INFORMATION FOR SEQ ID NO:X:(insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.	
8 <input type="checkbox"/> Skipped Sequences (NEW RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence. <210> sequence id number <400> sequence id number 000	
9 <input type="checkbox"/> Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.	
10 <input type="checkbox"/> Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence.	
11 <input type="checkbox"/> Use of <220>	Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)	
12 <input type="checkbox"/> PatentIn 2.0 "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.	
13 <input type="checkbox"/> Misuse of n/Xaa	"n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid	



IFW16

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/678,023

DATE: 11/24/2004
TIME: 12:32:34

Input Set : A:\5.1158 Div 1 Sequence Listing.txt
Output Set: N:\CRF4\11242004\I678023.raw

SEQUENCE LISTING

*Does Not Comply
Corrected Diskette Needed*

4 (1) GENERAL INFORMATION:

6 (i) APPLICANT: KAWASAKI, Hideki
7 TOKAI, Masaya
8 KIKUCHI, Yasuhiro
9 OUCHI, Kozo

11 (ii) TITLE OF INVENTION: DNA ENCODING PROTEIN COMPLEMENTING
12 YEAST

13 LOW TEMPERATURE-SENSITIVE FERMENTABILITY

15 (iii) NUMBER OF SEQUENCES: 2

17 (iv) CORRESPONDENCE ADDRESS:

18 (A) ADDRESSEE: FITZPATRICK, CELLA, HARPER & SCINTO
19 (B) STREET: 30 Rockefeller Plaza
20 (C) CITY: New York
21 (D) STATE: New York
22 (E) COUNTRY: U.S.A.
23 (F) ZIP: 10112-3801

25 (v) COMPUTER READABLE FORM:

26 (A) MEDIUM TYPE: Diskette - 3.50 inch, 1440 Kb storage.
29 (B) COMPUTER: IBM PS/V
30 (C) OPERATING SYSTEM: MS-DOS Ver3.30
31 (D) SOFTWARE: PATENT AID Ver1.0

33 (vi) CURRENT APPLICATION DATA:

C--> 34 (A) APPLICATION NUMBER: US/09/678,023
C--> 35 (B) FILING DATE: 04-Oct-2000

41 (vii) PRIOR APPLICATION DATA:

W--> 38 (A) APPLICATION NUMBER: 08/894,344
39 (B) FILING DATE: 15-AUGUST-1997

W--> 42 (A) APPLICATION NUMBER: JP343700/95
43 (B) FILING DATE: 28-DECEMBER-1995

W--> 44 (A) APPLICATION NUMBER: PCT/JP96/03862
45 (B) FILING DATE: 27-DECEMBER-1996

47 (viii) ATTORNEY/AGENT INFORMATION:

48 (A) NAME: Perry, Lawrence S.
49 (B) REGISTRATION NUMBER: 31865

51 (ix) TELECOMMUNICATION INFORMATION:

52 (A) TELEPHONE: 212-218-2100
53 (B) TELEFAX: 212-218-2200

ERRORED SEQUENCES

466 (2) INFORMATION FOR SEQ ID NO: 2 :

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/678,023

DATE: 11/24/2004
TIME: 12:32:34

Input Set : A:\5.1158 Div 1 Sequence Listing.txt
Output Set: N:\CRF4\11242004\I678023.raw

468 (i) SEQUENCE CHARACTERISTICS:
469 (A) LENGTH: 2958 amino acids
470 (B) TYPE: amino acid
471 (D) TOPOLOGY: linear
473 (ii) MOLECULE TYPE: protein
475 (vi) ORIGINAL SOURCE:
476 (A) ORGANISM: *Saccharomyces cerevisiae*
477 (B) STRAIN: X2180-1B
479 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2
481 Met Glu Ala Ile Ser Gln Leu Arg Gly Val Pro Leu Thr His Gln Lys
483 1 5 10 15
485 Asp Phe Ser Trp Val Phe Leu Val Asp Trp Ile Leu Thr Val Val Val
487 20 25 30
489 Cys Leu Thr Met Ile Phe Tyr Met Gly Arg Ile Tyr Ala Tyr Leu Val
491 35 40 45
493 Ser Phe Ile Leu Glu Trp Leu Leu Trp Lys Arg Ala Lys Ile Lys Ile
495 50 55 60
497 Asn Val Glu Thr Leu Arg Val Ser Leu Leu Gly Gly Arg Ile His Phe
499 65 70 75 80
501 Lys Asn Leu Ser Val Ile His Lys Asp Tyr Thr Ile Ser Val Leu Glu
503 85 90 95
505 Gly Ser Leu Thr Trp Lys Tyr Trp Leu Leu Asn Cys Arg Lys Ala Glu
507 100 105 110
509 Leu Ile Glu Asn Asn Lys Ser Ser Gly Lys Lys Ala Lys Leu Pro
511 115 120 125
513 Cys Lys Ile Ser Val Glu Cys Glu Gly Leu Glu Ile Phe Ile Tyr Asn
515 130 135 140
517 Arg Thr Val Ala Tyr Asp Asn Val Ile Asn Leu Leu Ser Lys Asp Glu
519 145 150 155 160
521 Arg Asp Lys Phe Glu Lys Tyr Leu Asn Glu His Ser Phe Pro Glu Pro
523 165 170 175
525 Phe Ser Asp Gly Ser Ser Ala Asp Lys Leu Asp Glu Asp Leu Ser Glu
527 180 185 190
529 Ser Ala Tyr Thr Thr Asn Ser Asp Ala Ser Ile Val Asn Asp Arg Asp
531 195 200 205
533 Tyr Gln Glu Thr Asp Ile Gly Lys His Pro Lys Leu Leu Met Phe Leu
535 210 215 220
537 Pro Ile Glu Leu Lys Phe Ser Arg Gly Ser Leu Leu Leu Gly Asn Lys
539 225 230 235 240
541 Phe Thr Pro Ser Val Met Ile Leu Ser Tyr Glu Ser Gly Lys Gly Ile
543 245 250 255
545 Ile Asp Val Leu Pro Pro Lys Glu Arg Leu Asp Leu Tyr Arg Asn Lys
547 260 265 270
549 Thr Gln Met Glu Phe Lys Asn Phe Glu Ile Ser Ile Lys Gln Asn Ile
551 275 280 285
553 Gly Tyr Asp Asp Ala Ile Gly Leu Lys Phe Lys Ile Asp Arg Gly Lys
555 290 295 300
557 Val Ser Lys Leu Trp Lys Thr Phe Val Arg Val Phe Gln Ile Val Thr
559 305 310 315 320

RAW SEQUENCE LISTING DATE: 11/24/2004
 PATENT APPLICATION: US/09/678,023 TIME: 12:32:34

Input Set : A:\5.1158 Div 1 Sequence Listing.txt
 Output Set: N:\CRF4\11242004\I678023.raw

561 Lys Pro Val Val Pro Lys Lys Thr Lys Lys Ser Ala Gly Thr Ser Asp
 563 325 330 335
 565 Asp Asn Phe Tyr His Lys Trp Lys Gly Leu Ser Leu Tyr Lys Ala Ser
 567 340 345 350
 569 Ala Gly Asp Ala Lys Ala Ser Asp Leu Asp Asp Val Glu Phe Asp Leu
 571 355 360 365
 573 Thr Asn His Glu Tyr Ala Lys Phe Thr Ser Ile Leu Lys Cys Pro Lys
 575 370 375 380
 577 Val Thr Ile Ala Tyr Asp Val Asp Val Pro Gly Val Val Pro His Gly
 579 385 390 395 400
 581 Ala His Pro Thr Ile Pro Asp Ile Asp Gly Pro Asp Val Gly Asn Asn
 583 405 410 415
 585 Gly Ala Pro Pro Asp Phe Ala Leu Asp Val Gln Ile His Gly Gly Ser
 587 420 425 430
 589 Ile Cys Tyr Gly Pro Trp Ala Gln Arg Gln Val Ser His Leu Gln Arg
 591 435 440 445
 593 Val Leu Ser Pro Val Val Ser Arg Thr Ala Lys Pro Ile Lys Lys Leu
 595 450 455 460
 597 Pro Pro Gly Ser Arg Arg Ile Tyr Thr Leu Phe Arg Met Asn Ile Ser
 599 465 470 475 480
 601 Ile Met Glu Asp Thr Thr Trp Arg Ile Pro Thr Arg Glu Ser Ser Lys
 603 485 490 495
 605 Asp Pro Glu Phe Leu Lys His Tyr Lys Glu Thr Asn Glu Glu Tyr Arg
 607 500 505 510
 609 Pro Phe Gly Trp Met Asp Leu Arg Phe Cys Lys Asp Thr Tyr Ala Asn
 611 515 520 525
 613 Phe Asn Ile Ser Val Cys Pro Thr Val Gln Gly Phe Gln Asn Asn Phe
 615 530 535 540
 617 His Val His Phe Leu Glu Thr Glu Ile Arg Ser Ser Val Asn His Asp
 619 545 550 555 560
 621 Ile Leu Leu Lys Ser Lys Val Phe Asp Ile Asp Gly Asp Ile Gly Tyr
 623 565 570 575
 625 Pro Leu Gly Trp Asn Ser Lys Ala Ile Trp Ile Ile Asn Met Lys Ser
 627 580 585 590
 629 Glu Gln Leu Glu Ala Phe Leu Leu Arg Glu His Ile Thr Leu Val Ala
 631 595 600 605
 633 Asp Thr Leu Ser Asp Phe Ser Ala Gly Asp Pro Thr Pro Tyr Glu Leu
 635 610 615 620
 637 Phe Arg Pro Phe Val Tyr Lys Val Asn Trp Glu Met Glu Gly Tyr Ser
 639 625 630 635 640
 641 Ile Tyr Leu Asn Val Asn Asp His Asn Ile Val Asn Asn Pro Leu Asp
 643 645 650 655
 645 Phe Asn Glu Asn Cys Tyr Leu Ser Leu His Gly Asp Lys Leu Ser Ile
 647 660 665 670
 649 Asp Val Thr Val Pro Arg Glu Ser Ile Leu Gly Thr Tyr Thr Asp Met
 651 675 680 685
 653 Ser Tyr Glu Ile Ser Thr Pro Met Phe Arg Met Met Leu Asn Thr Pro
 655 690 695 700
 657 Pro Trp Asn Thr Leu Asn Glu Phe Met Lys His Lys Glu Val Gly Arg

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PATENT APPLICATION: US/09/678,023

DATE: 11/24/2004
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Input Set : A:\5.1158 Div 1 Sequence Listing.txt
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659	705	710	715	720															
661	Ala	Tyr	Asp	Phe	Thr	Ile	Lys	Gly	Ser	Tyr	Leu	Leu	Tyr	Ser	Glu	Leu			
663																725	730	735	
665	Asp	Ile	Asp	Asn	Val	Asp	Thr	Leu	Val	Ile	Glu	Cys	Asn	Ser	Lys	Ser			
667																740	745	750	
669	Thr	Val	Leu	His	Cys	Tyr	Gly	Phe	Val	Met	Arg	Tyr	Leu	Thr	Asn	Val			
671																755	760	765	
673	Lys	Met	Asn	Tyr	Phe	Gly	Glu	Phe	Phe	Asn	Phe	Val	Thr	Ser	Glu	Glu			
675																770	775	780	
677	Tyr	Thr	Gly	Val	Leu	Gly	Ala	Arg	Glu	Val	Gly	Asp	Val	Thr	Thr	Lys			
679																785	790	795	800
681	Ser	Ser	Val	Ala	Asp	Leu	Ala	Ser	Thr	Val	Asp	Ser	Gly	Tyr	Gln	Asn			
683																805	810	815	
685	Ser	Ser	Leu	Lys	Asn	Glu	Ser	Glu	Asp	Lys	Gly	Pro	Met	Lys	Arg	Ser			
687																820	825	830	
689	Asp	Leu	Lys	Arg	Thr	Thr	Asn	Glu	Thr	Asp	Ile	Trp	Phe	Thr	Phe	Ser			
691																835	840	845	
693	Val	Trp	Asp	Gly	Ala	Leu	Ile	Leu	Pro	Glu	Thr	Ile	Tyr	Ser	Phe	Asp			
695																850	855	860	
697	Pro	Cys	Ile	Ala	Leu	His	Phe	Ala	Glu	Leu	Val	Val	Asp	Phe	Arg	Ser			
699																865	870	875	880
701	Cys	Asn	Tyr	Tyr	Met	Asp	Ile	Met	Ala	Val	Leu	Asn	Gly	Thr	Ser	Ile			
703																885	890	895	
705	Lys	Arg	His	Val	Ser	Lys	Gln	Ile	Asn	Glu	Val	Phe	Asp	Phe	Ile	Arg			
707																900	905	910	
709	Arg	Asn	Asn	Gly	Ala	Asp	Glu	Gln	Glu	His	Gly	Leu	Leu	Ser	Asp	Leu			
711																915	920	925	
713	Thr	Ile	His	Gly	His	Arg	Met	Tyr	Gly	Leu	Pro	Pro	Thr	Glu	Pro	Thr			
715																930	935	940	
717	Tyr	Phe	Cys	Gln	Trp	Asp	Ile	Asn	Leu	Gly	Asp	Leu	Cys	Ile	Asp	Ser			
719																945	950	955	960
721	Asp	Ile	Glu	Phe	Ile	Lys	Gly	Phe	Phe	Asn	Ser	Phe	Tyr	Lys	Ile	Gly			
723																965	970	975	
725	Phe	Gly	Tyr	Asn	Asp	Leu	Glu	Asn	Ile	Leu	Leu	Tyr	Asp	Thr	Glu	Thr			
727																980	985	990	
729	Ile	Asn	Asp	Met	Thr	Ser	Leu	Thr	Val	His	Val	Glu	Lys	Ile	Arg	Ile			
731																995	1000	1005	
733	Gly	Leu	Lys	Asp	Pro	Val	Met	Lys	Ser	Gln	Ser	Val	Ile	Ser	Ala	Glu			
735																1010	1015	1020	
737	Ser	Ile	Leu	Phe	Thr	Leu	Ile	Asp	Phe	Glu	Asn	Glu	Lys	Tyr	Ser	Gln			
E--> 739																1025	1030	1035	1040
E--> 740	1040																		
E--> 741	Arg	Ile	Asp	Val	Lys	Ile	Pro	Lys	Leu	Thr	Ile	Ser	Leu	Asn	Cys	Val			
E--> 743																1045	1050	1055	
E--> 745	Met	Gly	Asp	Gly	Val	Asp	Thr	Ser	Phe	Leu	Lys	Phe	Glu	Thr	Lys	Leu			
E--> 747																1060	1065	1070	
E--> 749	Arg	Phe	Thr	Asn	Phe	Glu	Gln	Tyr	Lys	Asp	Ile	Asp	Lys	Lys	Arg	Ser			
E--> 751																1075	1080	1085	
753	Glu	Gln	Arg	Arg	Tyr	Ile	Thr	Ile	His	Asp	Ser	Pro	Tyr	His	Arg	Cys			

See item 3 on Env Summary Sheet.

Please verify your
amino acid
numbering. Make
sure the numbers are
under their respective amino acids. 11/24/04

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/678,023

DATE: 11/24/2004
TIME: 12:32:34

Input Set : A:\5.1158 Div 1 Sequence Listing.txt
Output Set: N:\CRF4\11242004\I678023.raw

853 Ala Lys Asp Ala Lys Asn Ile Phe Met Ser Val Phe Ser Thr Trp Arg
E--> 855 1490 1495 1500
857 Asn Trp Glu Phe Ser Asp Val Ala Arg Ser Tyr Ile Tyr Gly Lys Leu
E--> 859 1505 1510 1515 1520
861 Phe Thr Ala Glu Asn Glu Lys His Lys Gln Asn Leu Ile Lys Lys Leu
E--> 863 1525 1530 1535
865 Leu Lys Cys Thr Met Gly Ser Phe Tyr Leu Thr Val Tyr Gly Glu Gly
E--> 867 1540 1545 1550
869 Tyr Glu Val Glu His Asn Phe Val Val Ala Asp Ala Asn Leu Val Val
E--> 871 1555 1560 1565
873 Asp Leu Thr Pro Pro Val Thr Ser Leu Pro Ser Asn Arg Glu Glu Thr
E--> 875 1570 1575 1580
877 Ile Glu Ile Thr Gly Arg Val Gly Ser Val Lys Gly Lys Phe Ser Asp
E--> 879 1585 1590 1595 1600
881 Arg Leu Leu Lys Leu Gln Asp Leu Ile Pro Leu Ile Ala Ala Val Gly
E--> 883 1605 1610 1615
885 Glu Asp Asp Lys Ser Asp Pro Lys Lys Glu Leu Ser Lys Gln Phe Lys
E--> 887 1620 1625 1630
889 Met Asn Thr Val Leu Leu Val Asp Lys Ser Glu Leu Gln Leu Val Met
E--> 891 1635 1640 1645
893 Asp Gln Thr Lys Leu Met Ser Arg Thr Val Gly Gly Arg Val Ser Leu
E--> 895 1650 1655 1660
897 Leu Trp Glu Asn Leu Lys Asp Ser Thr Ser Gln Ala Gly Ser Leu Val
E--> 899 1665 1670 1675 1680
901 Ile Phe Ser Gln Lys Ser Glu Val Trp Leu Lys His Thr Ser Val Ile
E--> 903 1685 1690 1695
905 Leu Gly Glu Ala Gln Leu Arg Asp Phe Ser Val Leu Ala Thr Thr Glu
E--> 907 1700 1705 1710
909 Ala Trp Ser His Lys Pro Thr Ile Leu Ile Asn Asn Gln Cys Ala Asp
E--> 911 1715 1720 1725
913 Leu His Phe Arg Ala Met Ser Ser Thr Glu Gln Leu Val Thr Ala Ile
E--> 915 1730 1735 1740
917 Thr Glu Ile Arg Glu Ser Leu Met Met Ile Lys Glu Arg Ile Lys Phe
E--> 919 1745 1750 1755 1760
921 Lys Pro Lys Ser Lys Lys Ser Gln Phe Val Asp Gln Lys Ile Asn
E--> 923 1765 1770 1775
925 Thr Val Leu Ser Cys Tyr Phe Ser Asn Val Ser Ser Glu Val Met Pro
E--> 927 1780 1785 1790
929 Leu Ser Pro Phe Tyr Ile Arg His Glu Ala Lys Gln Leu Asp Ile Tyr
E--> 931 1795 1800 1805
933 Phe Asn Lys Phe Gly Ser Asn Glu Ile Leu Leu Ser Ile Trp Asp Thr
E--> 935 1810 1815 1820
937 Asp Phe Phe Met Thr Ser His Gln Thr Lys Glu Gln Tyr Leu Arg Phe
E--> 939 1825 1830 1835 1840
941 Ser Phe Gly Asp Ile Glu Ile Lys Gly Gly Ile Ser Arg Glu Gly Tyr
E--> 943 1845 1850 1855
945 Ser Leu Ile Asn Val Asp Ile Ser Ile Ser Met Ile Lys Leu Thr Phe
E--> 947 1860 1865 1870
949 Ser Glu Pro Arg Arg Ile Val Asn Ser Phe Leu Gln Asp Glu Lys Leu

RAW SEQUENCE LISTING DATE: 11/24/2004
 PATENT APPLICATION: US/09/678,023 TIME: 12:32:34

Input Set : A:\5.1158 Div 1 Sequence Listing.txt
 Output Set: N:\CRF4\11242004\I678023.raw

E--> 755	1090	1095	1100	
757	Pro Phe Leu Leu Pro Leu Phe Tyr Gln Asp Ser Asp Thr Tyr Gln Asn			
E--> 759	1105	1110	1115	1120
761	Leu Tyr Gly Ala Ile Ala Pro Ser Ser Ser Ile Pro Thr Leu Pro Leu			
E--> 763	1125	1130	1135	
765	Pro Thr Leu Pro Asp Thr Ile Asp Tyr Ile Ile Glu Asp Ile Val Gly			
E--> 767	1140	1145	1150	
769	Glu Tyr Ala Thr Leu Leu Glu Thr Thr Asn Pro Phe Lys Asn Ile Phe			
E--> 771	1155	1160	1165	
773	Ala Glu Thr Pro Ser Thr Met Glu Pro Ser Arg Ala Ser Phe Ser Glu			
E--> 775	1170	1175	1180	
777	Asp Asp Asn Asp Glu Glu Ala Asp Pro Ser Ser Phe Lys Pro Val Ala			
E--> 779	1185	1190	1195	1200
781	Phe Thr Glu Asp Arg Asn His Glu Arg Asp Asn Tyr Val Val Asp Val			
E--> 783	1205	1210	1215	
785	Ser Tyr Ile Leu Leu Asp Val Asp Pro Leu Leu Phe Ile Phe Ala Lys			
E--> 787	1220	1225	1230	
789	Ser Leu Leu Glu Gln Leu Tyr Ser Glu Asn Met Val Gln Val Leu Asp			
E--> 791	1235	1240	1245	
793	Asp Ile Glu Ile Gly Ile Val Lys Arg Leu Ser Asn Leu Gln Glu Gly			
E--> 795	1250	1255	1260	
797	Ile Thr Ser Ile Ser Asn Ile Asp Ile His Ile Ala Tyr Leu Asn Leu			
E--> 799	1265	1270	1275	1280
801	Ile Trp Gln Glu Thr Gly Glu Gly Phe Glu Leu Tyr Leu Asp Arg			
E--> 803	1285	1290	1295	
805	Ile Asp Tyr Gln Met Ser Glu Lys Ser Leu Glu Lys Asn Arg Thr Asn			
E--> 807	1300	1305	1310	
809	Lys Leu Leu Glu Val Ala Ala Leu Ala Lys Val Lys Thr Val Arg Val			
E--> 811	1315	1320	1325	
813	Thr Val Asn Gln Lys Lys Asn Pro Asp Leu Ser Glu Asp Arg Pro Pro			
E--> 815	1330	1335	1340	
817	Ala Leu Ser Leu Gly Ile Glu Gly Phe Glu Val Trp Ser Ser Thr Glu			
E--> 819	1345	1350	1355	1360
821	Asp Arg Gln Val Asn Ser Leu Asn Leu Thr Ser Ser Asp Ile Thr Ile			
E--> 823	1365	1370	1375	
825	Asp Glu Ser Gln Met Glu Trp Leu Phe Glu Tyr Cys Ser Asp Gln Gly			
E--> 827	1380	1385	1390	
829	Asn Leu Ile Gln Glu Val Cys Thr Ser Phe Asn Ser Ile Gln Asn Thr			
E--> 831	1395	1400	1405	
833	Arg Ser Asn Ser Lys Thr Glu Leu Ile Ser Lys Leu Thr Ala Ala Ser			
E--> 835	1410	1415	1420	
837	Glu Tyr Tyr Gln Ile Ser His Asp Pro Tyr Val Ile Thr Lys Pro Ala			
E--> 839	1425	1430	1435	1440
841	Phe Ile Met Arg Leu Ser Lys Gly His Val Arg Glu Asn Arg Ser Trp			
E--> 843	1445	1450	1455	
845	Lys Ile Ile Thr Arg Leu Arg His Ile Leu Thr Tyr Leu Pro Asp Asp			
E--> 847	1460	1465	1470	
849	Trp Gln Ser Asn Ile Asp Glu Val Leu Lys Glu Lys Lys Tyr Thr Ser			
E--> 851	1475	1480	1485	

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/678,023

DATE: 11/24/2004
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Input Set : A:\5.1158 Div 1 Sequence Listing.txt
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E--> 951	1875	1880	1885	
953	Ala Ser Gln Gly Ile Asn Leu Leu Tyr Ser Leu Lys Pro Leu Phe Phe			
E--> 955	1890	1895	1900	
957	Ser Ser Asn Leu Pro Lys Lys Glu Lys Gln Ala Pro Ser Ile Met Ile			
E--> 959	1905	1910	1915	1920
961	Asn Trp Thr Leu Asp Thr Ser Ile Thr Tyr Phe Gly Val Leu Val Pro			
E--> 963	1925	1930	1935	
965	Val Ala Ser Thr Tyr Phe Val Phe Glu Leu His Met Leu Leu Leu Ser			
E--> 966	1940	1945	1950	
968	Leu Thr Asn Thr Asn Asn Gly Met Leu Pro Glu Glu Thr Lys Val Thr			
E--> 970	1955	1960	1965	
972	Gly Gln Phe Ser Ile Glu Asn Ile Leu Phe Leu Ile Lys Glu Arg Ser			
E--> 974	1970	1975	1980	
976	Leu Pro Ile Gly Leu Ser Lys Leu Leu Asp Phe Ser Ile Lys Val Ser			
E--> 978	1985	1990	1995	2000
980	Thr Leu Gln Arg Thr Val Asp Thr Glu Gln Ser Phe Gln Val Glu Ser			
E--> 982	2005	2010	2015	
984	Ser His Phe Arg Val Cys Leu Ser Pro Asp Ser Leu Leu Arg Leu Met			
E--> 986	2020	2025	2030	
988	Trp Gly Ala His Lys Leu Leu Asp Leu Ser His Tyr Tyr Ser Arg Arg			
E--> 990	2035	2040	2045	
992	His Ala Pro Asn Ile Trp Asn Thr Lys Met Phe Thr Gly Lys Ser Asp			
E--> 994	2050	2055	2060	
996	Lys Ser Lys Glu Met Pro Ile Asn Phe Arg Ser Ile His Ile Leu Ser			
E--> 998	2065	2070	2075	2080
1000	Tyr Lys Phe Cys Ile Gly Trp Ile Phe Gln Tyr Gly Ala Gly Ser Asn			
E--> 1002	2085	2090	2095	
1004	Pro Gly Leu Met Leu Gly Tyr Asn Arg Leu Phe Ser Ala Tyr Glu Lys			
E--> 1006	2100	2105	2110	
1008	Asp Phe Gly Lys Phe Thr Val Val Asp Ala Phe Phe Ser Val Ala Asn			
E--> 1010	2115	2120	2125	
1012	Gly Asn Thr Ser Ser Thr Phe Phe Ser Glu Gly Asn Glu Lys Asp Lys			
E--> 1014	2130	2135	2140	
1016	Tyr Asn Arg Ser Phe Leu Pro Asn Met Gln Ile Ser Tyr Trp Phe Lys			
E--> 1018	2145	2150	2155	2160
1020	Arg Cys Gly Glu Leu Lys Asp Trp Phe Phe Arg Phe His Gly Glu Ala			
E--> 1022	2165	2170	2175	
1024	Leu Asp Val Asn Phe Val Pro Ser Phe Met Asp Val Ile Glu Ser Thr			
E--> 1026	2180	2185	2190	
1028	Leu Gln Ser Met Arg Ala Phe Gln Glu Leu Lys Lys Asn Ile Leu Asp			
E--> 1030	2195	2200	2205	
1032	Val Ser Glu Ser Leu Arg Ala Glu Asn Asp Asn Ser Tyr Ala Ser Thr			
E--> 1034	2210	2215	2220	
1036	Ser Val Glu Ser Ala Ser Ser Ser Leu Ala Pro Phe Leu Asp Asn Ile			
E--> 1038	2225	2230	2235	2240
1040	Arg Ser Val Asn Ser Asn Phe Lys Tyr Asp Gly Gly Val Phe Arg Val			
E--> 1042	2245	2250	2255	
1044	Tyr Thr Tyr Glu Asp Ile Glu Thr Lys Ser Glu Pro Ser Phe Glu Ile			
E--> 1046	2260	2265	2270	

*Please
correct
this line
and
following
lines*

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/678,023

DATE: 11/24/2004
TIME: 12:32:34

Input Set : A:\5.1158 Div 1 Sequence Listing.txt
Output Set: N:\CRF4\11242004\I678023.raw

1048 Lys Ser Pro Val Val Thr Ile Asn Cys Thr Tyr Lys His Asp Glu Asp
E--> 1050 2275 2280 2285
1052 Lys Val Lys Pro His Lys Phe Arg Thr Leu Ile Thr Val Asp Pro Thr
E--> 1054 2290 2295 2300
1056 His Asn Thr Leu Tyr Ala Gly Cys Ala Pro Leu Leu Met Glu Phe Ser
E--> 1058 2305 2310 2315 2320
1060 Glu Ser Leu Gln Lys Met Ile Lys Lys His Ser Thr Asp Glu Lys Pro
E--> 1062 2325 2330 2335
1064 Asn Phe Thr Lys Pro Ser Ser Gln Asn Val Asp Tyr Lys Arg Leu Leu
E--> 1066 2340 2345 2350
1068 Asp Gln Phe Asp Val Ala Val Lys Leu Thr Ser Ala Lys Gln Gln Leu
E--> 1070 2355 2360 2365
1072 Ser Leu Ser Cys Glu Pro Lys Ala Lys Val Gln Ala Asp Val Gly Phe
E--> 1074 2370 2375 2380
1076 Glu Ser Phe Leu Phe Ser Met Ala Thr Asn Glu Phe Asp Ser Glu Gln
E--> 1078 2385 2390 2395 2400
1080 Pro Leu Glu Phe Ser Leu Thr Leu Glu His Thr Lys Ala Ser Ile Lys
E--> 1082 2405 2410 2415
1084 His Ile Phe Ser Arg Glu Val Ser Thr Ser Phe Glu Val Gly Phe Met
E--> 1086 2420 2425 2430
1088 Asp Leu Thr Leu Leu Phe Thr His Pro Asp Val Ile Ser Met Tyr Gly
E--> 1090 2435 2440 2445
1092 Thr Gly Leu Val Ser Asp Leu Ser Val Phe Phe Asn Val Lys Gln Leu
E--> 1094 2450 2455 2460
1096 Gln Asn Leu Tyr Leu Phe Leu Asp Ile Trp Arg Phe Ser Ser Ile Leu
E--> 1098 2465 2470 2475 2480
1100 His Thr Arg Pro Val Gln Arg Thr Val Asn Lys Glu Ile Glu Met Ser
E--> 1102 2485 2490 2495
1104 Ser Leu Thr Ser Thr Asn Tyr Ala Asp Ala Gly Thr Glu Ile Pro Trp
E--> 1106 2500 2505 2510
1108 Cys Phe Thr Leu Ile Phe Thr Asn Val Ser Gly Asp Val Asp Leu Gly
E--> 1110 2515 2520 2525
1112 Pro Ser Leu Gly Met Ile Ser Leu Arg Thr Gln Arg Thr Trp Leu Ala
E--> 1114 2530 2535 2540
1116 Thr Asp His Tyr Asn Glu Lys Arg Gln Leu Leu His Ala Phe Thr Asp
E--> 1118 2545 2550 2555 2560
1120 Gly Ile Ser Leu Thr Ser Glu Gly Arg Leu Ser Gly Leu Phe Glu Val
E--> 1122 2565 2570 2575
1124 Ala Asn Ala Ser Trp Leu Ser Glu Val Lys Trp Pro Pro Glu Lys Ser
E--> 1126 2580 2585 2590
1128 Lys Asn Thr His Pro Leu Val Ser Thr Ser Leu Asn Ile Asp Asp Ile
E--> 1130 2595 2600 2605
1132 Ala Val Lys Ala Ala Phe Asp Tyr His Met Phe Leu Ile Gly Thr Ile
E--> 1134 2610 2615 2620
1136 Ser Asn Ile His Phe His Leu His Asn Glu Lys Asp Ala Lys Gly Val
E--> 1138 2625 2630 2635 2640
1140 Leu Pro Asp Leu Leu Gln Val Ser Phe Ser Ser Asp Glu Ile Ile Leu
E--> 1142 2645 2650 2655
1144 Ser Ser Thr Ala Leu Val Val Ala Asn Ile Leu Asp Ile Tyr Asn Thr

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/678,023

DATE: 11/24/2004
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Input Set : A:\5.1158 Div 1 Sequence Listing.txt
Output Set: N:\CRF4\11242004\I678023.raw

E--> 1146	2660	2665	2670	
1148	Ile Val Arg Met Arg Gln Asp Asn Lys Ile Ser Tyr Met Glu Thr Leu			
E--> 1150	2675	2680	2685	
1152	Arg Asp Ser Asn Pro Gly Glu Ser Arg Gln Pro Ile Leu Tyr Lys Asp			
E--> 1154	2690	2695	2700	
1156	Ile Leu Arg Ser Leu Lys Leu Leu Arg Thr Asp Leu Ser Val Asn Ile			
E--> 1158	2705	2710	2715	2720
1160	Ser Ser Ser Lys Val Gln Ile Ser Pro Ile Ser Leu Phe Asp Val Glu			
E--> 1162	2725	2730	2735	
1164	Val Leu Val Ile Arg Ile Asp Lys Val Ser Ile Arg Ser Glu Thr His			
E--> 1166	2740	2745	2750	
1168	Ser Gly Lys Lys Leu Lys Thr Asp Leu Gln Leu Gln Val Leu Asp Val			
E--> 1170	2755	2760	2765	
1172	Ser Ala Ala Leu Ser Thr Ser Lys Glu Glu Leu Asp Glu Glu Val Gly			
E--> 1174	2770	2775	2780	
1176	Ala Ser Ile Ala Ile Asp Asp Tyr Met His Tyr Ala Ser Lys Ile Val			
E--> 1178	2785	2790	2795	2800
1180	Gly Gly Thr Ile Ile Asp Ile Pro Lys Leu Ala Val His Met Thr Thr			
E--> 1182	2805	2810	2815	
1184	Leu Gln Glu Glu Lys Thr Asn Asn Leu Glu Tyr Leu Phe Ala Cys Ser			
E--> 1186	2820	2825	2830	
1188	Phe Ser Asp Lys Ile Ser Val Arg Trp Asn Leu Gly Pro Val Asp Phe			
E--> 1190	2835	2840	2845	
1192	Ile Lys Glu Met Trp Thr Thr His Val Lys Ala Leu Ala Val Arg Arg			
E--> 1194	2850	2855	2860	
1196	Ser Gln Val Ala Asn Ile Ser Phe Gly Gln Thr Glu Glu Leu Glu			
E--> 1198	2865	2870	2875	2880
1200	Glu Ser Ile Lys Lys Glu Glu Ala Ala Ser Lys Phe Asn Tyr Ile Ala			
E--> 1202	2885	2890	2895	
1204	Leu Glu Glu Pro Gln Ile Glu Val Pro Gln Ile Arg Asp Leu Gly Asp			
E--> 1206	2900	2905	2910	
1208	Ala Thr Pro Pro Met Glu Trp Phe Gly Val Asn Arg Lys Lys Phe Pro			
E--> 1210	2915	2920	2925	
1212	Lys Phe Thr His Gln Thr Ala Val Ile Pro Val Gln Lys Leu Val Tyr			
E--> 1214	2930	2935	2940	
1216	Leu Ala Glu Lys Gln Tyr Val Lys Ile Leu Asp Asp Thr His			
E--> 1218	2945	2950	2955	

VERIFICATION SUMMARY DATE: 11/24/2004
PATENT APPLICATION: US/09/678,023 TIME: 12:32:35

Input Set : A:\5.1158 Div 1 Sequence Listing.txt
Output Set: N:\CRF4\11242004\I678023.raw

L:34 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:35 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:44 M:238 W: Alpha Fields not Ordered, Reordered [(A) APPLICATION NUMBER:] of (1) (vii)
L:60 M:220 C: Keyword misspelled or invalid format, [(C) STRANDEDNESS:]
L:739 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:2
M:332 Repeated in SeqNo=2